



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,606	12/08/2003	Yuko Takeda	60395 (49381)	4761
21874 7590 09/02/2009 EDWARDS ANGELL PALMER & DODGE LLP P.O. BOX 55874 BOSTON, MA 02205				
EXAMINER TRAORE, FATOUMATA				
ART UNIT		PAPER NUMBER		
2436				
MAIL DATE		DELIVERY MODE		
09/02/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/731,606

Applicant(s)

TAKEDA ET AL.

Examiner

FATOUMATA TRAORE

Art Unit

2436

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This is in response to the to the amendment file May 26, 2009. Claim 1 has been amended. Claims 1-26 are pending and have been considered below.

Response to Arguments

2. Applicant's arguments filed 05/26/2009 have been fully considered but they are not persuasive. Applicant's argues, "Okamoto fails to describe at least "writing the encryption key into a memory on the sheet" and "reading the encryption key from the memory on said sheet?" As information peculiar to the sheet to be stored in the electronic circuit chip, there is a description about information, for example, physical/chemical information of the electronic circuit chip and information of shapes or geometrical factors of distinctively discernible sheet constituent elements and so on, in addition to visible information. However, Okamoto fails to describe how to obtain an encryption key to be used at the time of encryption or decryption, much less storing the encryption key in the electronic circuit chip." The examiner submits that the newly found reference to Hutchison discloses as step of writing an encryption in to a memory and reading the encryption key from the memory (see paragraphs [0022]-[0025], [0028], [0030]) and Hutchison further discloses a step of a creating the encryption key to be used at the time of encryption or decryption(see paragraphs [0025]-[0028]). Therefore the examiner submit that the combined teaching of Okamoto and Hutchison discloses teaches the claimed invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 12, 13 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al (US 6,659,353) in view of Hutchison (US 2003/0145218).

Claim 1: Okamoto et al discloses An image forming apparatus including-comprising:

- i. an acquisition unit for acquiring an image signal (*a scanner unit scans the surface of the sheet and the internal structure thereof*) (column 7, lines 5-10; column 10, lines 52-60; Fig. 2, item 24);
- ii. a sheet having one or a plurality of memories (*sheet such as bond, document or like, each of which sheets is provided with an electronic circuit chip from or in which information can be read out or written and has visible information*) (column 2, lines 49-53; column 3, lines 15-20; column 5, lines 61-65; Fig. 1, item 13; Fig. 3, item 11);
- iii. an image-forming unit for forming an image based on the image signal acquired by said acquisition unit (*column 2, lines 49-53; column 3, lines 15-20; column 5, lines 61-65; Fig. 1, item 13; Fig. 3, item 11*);
- iv. an encrypting unit for encrypting the image signal with the encryption key created by said encryption key creating unit (*it is taught that information uniquely associated with each sheet is encrypted or a digital signature is generated for*

affixation, whereon the encrypted information or the digital signature or both of them are stored in the above-mentioned electronic circuit chip)(column 2, lines 17-23; Fig. 3, item 31); and

v. a writing unit for writing the encryption key and the encrypted image signal into the one or a plurality of memories memory on said sheet (*encrypted information is stored in the electronic circuit chip*) (column3, lines 15-25, lines 45-50; column 7, lines27-33; column 7 line 60 to column 8, line15; Fig. 2, item 21; Fig. 3, item 32);

vi. a reading unit for reading an encrypted image and encryption key from the sheet (*the information stored in the electronic circuit is read out*) (column 10, lines 53-60; Fig. 9, item 91); and

vii. a decryption unit for decrypting the encrypted image using the encryption key read by the reading unit(*the information 12 becomes different from that resulting from the decryption of the encrypted information stored in the electronic circuit chip 13*)(column 6, line60 to column 7, line4; column 7, lines 30-60: Fig. 6, item 63).

Okamoto et al does not explicitly disclose an encryption key creating unit for creating an encryption key when said acquisition unit acquires an image signal and a step of storing the encryption key in a memory. However, Hutchison discloses a digital copier, which further discloses an encryption key creating unit for creating an encryption key when said acquisition unit acquires an image *signal* The session keys, which are unique to every "session," can be created at every new copying job, or with every scanned page image

even within a job, or can relate to a time of day or other incidental data (*paragraphs [0025], [0028]*)*an a step of storing the encryption key in a memory*(*paragraph[0030]*)..

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching Okomoto et al such as to Include an encryption key creating unit and to stored encrypted encryption key. One would have been motivated to do so in order to protect from being hacked or otherwise accessed as taught by Hutchison (abstract).

Claim 2: Okomoto et al and Hutchison discloses an image forming apparatus as in claim 1 above, and Okomoto et al further discloses wherein the reading unit further comprises:

- i. an image reading unit for reading the image formed on said sheet having one or a plurality of memories (*a scanner unit 43 scans the surface of the sheet 11 and the internal structure thereof*) (*column 3, lines 56-65; column 7, lines 5-10; Fig. 6, item 64*); and
- ii. a memory reading unit for reading the encryption key from the memory when said image reading unit reads the image(*information originating from the electronic circuit*) (*Fig. 6, item 62*);

Claim 3: Okomoto et al and Hutchison discloses an image forming apparatus as in claim 1 above, and Okomoto et al further discloses that the image forming apparatus further comprising an information acquiring/creating unit for acquiring or creating information about the image encrypted with the encryption key(*column 7, lines 5-20*), wherein said writing unit writes the encryption key and the information acquired or created by said information acquiring/creating unit into the same memory, or different memories on said

sheet having one or a plurality of memories(*information acquired by scanning the sheet and the information stored in the above-mentioned electronic circuit chip, which method is characterized in that the above-mentioned information is stored in at least two electronic circuit chips incorporated in a single sheet*) (column 3, lines 55-67)..

Claims 4 and 13: Okomoto et al and Hutchison discloses an image forming apparatus as in claim 2 above and 12 below, and Okomoto et al further discloses, wherein said memory reading unit reads the encryption key and information about the image encrypted with the encryption key from the same memory, or different memories on said sheet having one or a plurality of memories(Fig. 10), when said image reading unit reads the image, and said image forming apparatus further comprises a display unit for displaying the information read by said memory reading unit(*The control module 52 commands the output unit 44 to output the information which conforms with the result of the decision made by the discriminating module 54 through a display or the like means*)(column 13, lines 10-15).

Claims 12 and 24: Okomoto et al and Hutchison discloses an image forming apparatus as in claim 23 below, and Okomoto et al further discloses that the image forming apparatus further including

- i. an image reading unit for reading an image formed on a sheet having one or a plurality of memories storing an encryption key(*a scanner unit 43 scans the surface of the sheet 11 and the internal structure thereof*) (column 3, lines 56-65; column 7, lines 5-10; Fig. 6, item 64), and

ii. an image forming unit for forming an image on a sheet, based on an image signal of the image read by said image reading unit(column 3, lines 15-25), comprising:

- (1) a memory reading unit for reading the encryption key from the memory on said sheet having one or a plurality of memories when said image reading unit reads the image(*paragraphs [0010], [0027] of Hutchison*); and
- (2) a decrypting unit for decrypting the image signal of the image read by said image reading unit, with the encryption key read by said memory reading unit, wherein said image forming unit forms an image based on the image signal decrypted by said decrypting unit on another sheet (*the information 12 becomes different from that resulting from the decryption of the encrypted information stored in the electronic circuit chip 13*)(column 6, line60 to column 7, line4; column 7, lines 30-60: Fig. 6, item 63).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching Okomoto et al such as to read encryption key from the memory. One would have been motivated to do so in order to protect from being hacked or otherwise accessed as taught by Hutchison (abstract).

(3)

Claim 21: Okomoto et al discloses an image forming apparatus comprising:

- i. a sheet having one or a plurality of memories containing an encryption key and an encrypted image(sheet such as bond, document or like, each of which sheets is provided with an electronic circuit chip from or in which information can be read out or written and has visible information) (column 2, lines 49-53; column 3, lines 15-20.; column 5, lines 61-65; Fig. 1, item 13; Fig. 3, item 11
- ii. a reading unit for reading an encrypted image signal and encryption key from the sheet(a scanner unit 43 scans the surface of the sheet 11 and the internal structure thereof) (column 3, lines 56-65; column 7, lines 5-10; Fig. 6, item 64)

Okomoto et al does not explicitly disclose an image-forming unit for forming an image based on the encrypted image signal and encryption key read by said reading unit.

However, Hutchison discloses a digital copier, which further discloses an image-forming unit for forming an image based on the encrypted image signal and encryption key read by said reading unit (paragraphs [0022]-[0028]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching Okomoto et al such as to form image based on the encrypted image. One would have been motivated to do so in order to protect from being hacked or otherwise accessed as taught by Hutchison (abstract).

Claims 22 and 23: Okomoto et al and Hutchison discloses an image forming apparatus as in claims 21 and 2 above, and Okomoto et al further discloses, wherein said sheet comprises a first memory containing an encryption key and a second memory containing an encrypted image (column 3, lines 60-65).

2. Claims 5-11, 14-20, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okomoto et al (US 6,659,353) in view of Imai (US 5,512,977) in further view of Harada et al (US 20030007640).

Claims 5, 14 and 25: Okomoto et al and Hutchison discloses an image forming apparatus as in claims 1 and 24 above, while either of them explicitly discloses that the reading unit includes the number of times the image was formed. However, Harada et al discloses a similar apparatus, which includes content storage unit with pre-stores usage condition in correspondence with the content (*page 11, paragraph 0215*). The usage condition is permitted a permitted number of playback times. The permitted number of playback times imposes limitation on the total number of times that the user is permitted to play back the stored content that correspond to the usage condition (*page 11 paragraph 0216*). The condition storage unit shows (writes) a permitted playback (image formed) number of time (*page 2, paragraphs 0024, 0214-0240 and figure 13*). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined method of Okomoto et al and Hutchison such as to include the number of times a copy was made in the copying machine as taught by Harada et al. One would have been motivated to include the number of copy in order to determine when the authorized limit was reached.

Claims 6, 15 and 26: Okomoto et al and Hutchison and Harada et al discloses an image forming apparatus as in claims 5, 14 and 25 above, and Harada et al further discloses that the condition storage unit shows (writes) a permitted playback (image formed) number of

time (*page 2, paragraphs 0024, 0214-0240 and fig 13*). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined method of Okomoto et al and Hutchison such as to include the number of times a copy was made in the copying machine as taught by Harada et al. One would have been motivated to include the number of copy in order to determine when the authorized limit was reached.

Claims 7 and 16: Okomoto et al , Hutchison and Harada et al discloses an image forming apparatus as in claims 6 and 15 above, and Imai further discloses that the control circuit accepts input data from the keyboard and display necessary data on the display (*column 10, lines 55-60*).

Claims 8 and 17: Okomoto et al, Hutchison and Harada et al discloses an image forming apparatus as in claims 5 and 14 above, and Harada et al further discloses that the condition storage unit shows (*writes*) a permitted playback (image formed) number of time and a condition judgment unit which judges to play back the content only when the number of times of actual playback (image formed) of the content by the payback unit (*image processing unit*) is equal to or less than the permitted number of times (*page 2, paragraphs 0024, 0214-0240, and figure 11*). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined method of Okomoto et al and Hutchison such as to include the number of times a copy was made in the copying machine as taught by Harada et al. One would have been motivated to include the number of copy in order to determine when the authorized limit was reached.

Claims 9 and 18: Okomoto et al and Hutchison discloses an image forming apparatus as in claims 4 and 13 above, while either of them explicitly disclose, while neither of them explicitly discloses that the reading unit includes a period. However, Harada et al discloses a similar apparatus in which the condition storage unit shows a permitted playback (*image formed*) period and a condition judgment unit which judges to determine if the date and time at which the content is to be played back by the playback unit is within the permitted playback period and then (*page 2, paragraphs 24, 243-250 and figure 12*). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined method of Okomoto et al and Hutchison such as to include a predetermined time frame in the copying machine as taught by Harada et al. One would have been motivated to define a time period in order to prevent unauthorized copy when the limit was reached.

Claims 10 and 19: Okomoto et al and Hutchison discloses an image forming apparatus as in claims 4 and 13 above, while either of them explicitly disclose, while neither of them explicitly discloses that the identifier read by the memory-reading unit include the identifier stored in the storing unit. However Harada et al discloses a similar apparatus in which the record/playback (*image processing*) device includes a condition storage unit operable to store usage condition information (*identifiers*) showing a permissive condition for use of the content; and a condition judgment unit operable to judge whether use of the content is permitted according to the usage condition information (*page 1, paragraph 0012*). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined method of Okomoto et al

and Hutchison such as to include an identifier in the copying machine as taught by Harada et al. One would have been motivated to include the identifier in order to prevent illegal copying.

Claims 11 and 20: Okomoto et al and Hutchison disclose an image forming apparatus as in claims 4 and 13 above, while either of them explicitly disclose while neither of them explicitly discloses that the code inputted by the input unit and the code read by the reading unit are identical. However, Harada et al discloses a similar apparatus which further discloses the record/playback (*image processing*) device includes a condition storage unit operable to store usage condition information (identifiers) showing a permissive condition for use of the content; and a condition judgment unit operable to judge whether use of the content is permitted according to the usage condition information (*page 1, paragraph 0012*). In case of receiving the read instruction from the input unit as well the information indicating of successful authentication from the authentication unit, the control unit outputs a storage instruction to the title key-generating unit of the decryption unit (*page 15, paragraph 0309*). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined method of Okomoto et al and Hutchison such as to include a code in the copying machine as taught by Harada et al. One would have been motivated to include the code in order to prevent illegal copying.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fatoumata Traore whose telephone number is (571) 270-1685. The examiner can normally be reached Monday through Thursday from 7:00 a.m. to 4:00 p.m. and every other Friday from 7:30 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nassar G. Moazzami, can be reached on (571) 272 4195. The fax phone number for Formal or Official faxes to Technology Center 2100 is (571) 273-8300. Draft or Informal faxes, which will not be entered in the application, may be submitted directly to the examiner at (571) 270-2685.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (571) 272-2100.

Monday August 31, 2009

/F. T./

Examiner, Art Unit 2436

/Nasser G Moazzami/

Supervisory Patent Examiner, Art Unit 2436